

REMARKS

Careful consideration has been given by the applicant to the Examiner's comments and rejection of the claims, as set forth in the outstanding Office Action, and notes that in view of the prior art, as described in the present specification, the previous allowability of various of the claims has been withdrawn.

Concerning the rejection of Claims 8-14 under 35 U.S.C. §112, second paragraph, appropriate amendments have been implemented to Claim 8 to correct an ambiguity, inasmuch as a portion of the claim language was inadvertently omitted in the Preliminary Amendment filed at the time of the filing of this application.

Accordingly, Claim 8 has been amended to incorporate the missing terminology, which was in the original disclosure and in the German application, and as also provided for on Page 6, Lines 21-22 of the present specification indicating that the axial piston machine has a centering body connected to the housing.

Furthermore, the applicant notes the Examiner's rejection of Claims 1, 3, 4, 6-8 and 10-14 under 35 U.S.C. §102(b) as being anticipated by Tovey, of record; the rejection of Claims 2 and 9 under 35 U.S.C. §103(a) as being unpatentable over Tovey, as detailed in the Office Action; the alternative rejection of Claims 1-4 and 6-14 as being unpatentable over Tovey in view of Borcherding, et al., as also detailed in the Office Action.

Accordingly, upon careful consideration of the art, applicant respectfully submits that Claim 1 and the various claims, including amended Claim 8, clearly and patentably distinguish over both Tovey and Borcherding, et al., irrespective as to whether the references are considered singly or in combination.

In particular, reverting to the art, applicant submits the following arguments in traverse of the rejection of the claims in view of Tovey, U.S. Patent No. 4,757,743, as follows:

Tovey, U.S. Patent No. 4,757,743 discloses a control plate, i.e., a valve plate 44, possessing a circular central opening 66. As is illustrated in Fig. 2, and elucidated by the description in Column 4, Line 2. In that instance, the circular line 66 shown in Fig. 2 is defined as the “central opening” of the control plate 44. Consequently, the area in Fig. 2 referred to as “segment” by the Examiner cannot, in actuality, be a segment or any other protrusion of the control plate 44. This is fully substantiated by the fact that the referred to segment is neither identified by a reference number nor mentioned in the publication. In addition, Fig. 1B of Tovey represents a sectional view through both slots 46 and 48 of the control plate 44 as mounted in an axial piston machine. This signifies that the sectional view must also necessarily provide a cross section of both referred to segments, if any were existent. A sectional view through the referred to segments would necessitate showing a cross-hatched area between the central opening 66 of the control plate 44 and the shaft 22, but to the contrary, the sectional view shows a blank area at the location of the presumed segment instead of a cross-hatched area. There is simply no provision for any structure for centering of the control plate, and no such segments are illustrated or described. The assumption of a presence of segments would lead to contradictory illustrations in Figs. 1B and 2 of Tovey. Therefore, in the absence of any kind of segment, no recesses exist.

Consequently, it is conclusive that Tovey does not disclose a centering surface “composed of a plurality of partial surfaces formed on segments of the inner edge of the control plate, which extend radially inwardly into the through-opening and are separated by recesses”, as claimed in applicant’s Claim 1. This clearly substantiates that Claim 1, and the claims dependent therefrom, patentably distinguish over Tovey.

Moreover, Fig. 2 of Tovey illustrates two flat linear portions on the outer circumference on the control plate 44. One skilled in the art would readily know that these flat linear portions are intended for fixing and, possibly even for centering the control plate 44. That signifies the control plate is NOT centered by the radially inner edge of the control plate, but rather by the outer edge of the control plate. The presence of any space or gap encompassing the outer diameter of the control plate 44 in the sectional view of Fig. 1B can never represent the outer flat edges of the control plate, because even the slots 46 and 48 are illustrated. As already previously explained, a crossing line extending through the slots 46 and 48 cannot concurrently pass through the flat outer edges. However, it is obvious to one skilled in the art that the control plate 44 is fixed at the flat edges of the control plate 44, but not shown in the sectional view of Fig. 1B. Therefore, the presence of a space encompassing the control plate does not contradict the natural and obvious fixing in place of the control plate 44. Moreover, the inner end of the control plate provides for a space, and not for a centering function.

Additionally, in Tovey, the centering surface does not center the control plate on a centering body formed by the housing, whereby Fig. 1B does not disclose any fixing of the control plate 44, while the inner edge and the outer edge of the control plate merely illustrate a disclose space. The element surrounding the shaft in the enlargement of Fig. 1B illustrated by the Examiner on Page 13 of the Office Action, may surround the shaft 22, but is not in contact with the shaft 22, as represented in Fig. 2 and Fig. 1B. Here it should be noted that the sectional view of the control plate 44 in Fig. 2 is viewed from the right side towards the left side of Fig. 1B, since otherwise, there would have been visible an edge of the step at the outer narrowing of the control plate 44 between the outer edge of the control plate and the outer edge of slots 46 and 48. Thus, the element surrounding the shaft as shown in the enlargement of Fig. 1B in the Office Action on Page 13, is the inner ring of the control

plate 44 from the slots 46 to the central opening 66. Therefore, the element surrounding the shaft as shown in Fig. 2 of the examination report on Page 14 would not appear to be the same as the element surrounding the shaft as shown in Fig. 1B. From the point of view, as shown in Fig. 1B from the right side towards the left side, the element surrounding the shaft as shown in Fig. 2 has to be in the central opening 66 of the control plate 44, or on the left side thereof. However, in the central opening 66, there is only shown the shaft 22 as not being in contact with the control plate 44. Therefore, the mentioned “element surrounding the shaft” is not in contact with the control plate 44, but rather is behind the control plate 44. As a result, Tovey does not disclose any centering of the control plate 44, and does not in any manner disclose a centering at the radially inner edge of the control plate on a centering body on the housing. There can only be presumed that the control plate 44 is centered on the flat portions of the outer edge of the control plate 44, this representing a well-known state of the art.

Arguendo, even if the presumed segments existed, there would be only represented two segments separated by two recesses. However, Claim 1 provides for at least two (2) recesses separating the segments and one further recess provided at the centering surface in order to receive a rotation-locking element, and would still be patentable over Tovey, since the latter only provides for two (2) recesses.

Concerning the foregoing, applicant notes that the claims are clearly and patentably distinct over Tovey.

Even combining Tovey with the secondary reference to Borcherding, et al. would not render the invention obvious or unpatentable.

Concerning the foregoing, applicant further submits as follows:

Borcherding, U.S. Patent No. 6,757,767 B1 discloses a bearing retainer 10, and it is not readily ascertainable why a bearing retainer 10 made of bent metal sheet (“stamped from sheet metal” Column 3, Line 43) discloses anything applicable to a control plate of hydraulic axial piston machine constituted of massive metal. As disclosed in the present application, Page 2, first paragraph, the object of the present application is to prevent the need for a large amount of material and to reduce complex and costly material-removal processes in order to achieve a high surface quality, whereas on Page 8, Line 23, such a process to achieve high surface quality is described by lapping, which is not applicable to bent metal sheet. Furthermore, regarding the high pressures of up to 200 bar or more, to which a control plate is subjected, a person skilled in the art would not consider a bearing retainer 10 made of a metal sheet appropriate for improving the state of the art relative to massive control plate which has to tolerate large pressures. Therefore, it is not logical that a person skilled in the art would consider a combination of Tovey and Borcherding.

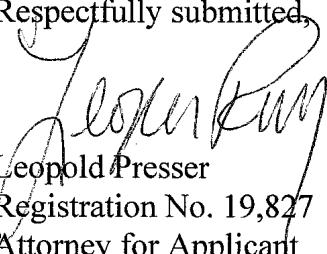
In addition, a bearing retainer 10 does not center or fix itself, in contrast with the control plate. The bearing retainer does fix another object 20 in its center opening and therefore it is fixe and centered at the outer edge of eth bearing retainer 10. However, Borcherding does not disclose the centering of the bearing retainer at the inner edge. The inner edge, instead, has been designed to hold and fix an object 20, which is fixed and centered by the outer edge of the bearing retainer (Fig. 4). Therefore, Borcherding, et al. does not disclose anything relevant or appropriate to the present application.

In essence, concerning the foregoing publications, described in the present specification on Page 3, first paragraph, the advantage of centering the control plate at the inner edge leads and only at a plurality of segments, which extend radially inwardly, resides in that the diameter of the control plate can be reduced and this provides for an area which is to be worked on as being relatively small.

None of the two cited publications disclose the centering of a control plate at the inner edge or even the centering by the referenced segments, as claimed and described in the present specification.

In view of the foregoing, applicant respectfully submits the claims, as currently pending and amended herein, clearly and patentably distinguish over the art, and the early and favorable reconsideration of the application and allowance thereof is earnestly solicited.

However, in the event that the Examiner has any queries concerning the instantly submitted Amendment, applicant's attorney respectfully requests that he be accorded the courtesy of possibly a telephone conference to discuss any matters in need of attention.

Respectfully submitted,

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